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December 1982

# Chopaka Mountain Wilderness Study Plan Amendment and Environmental Assessment

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# United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
SPOKANE DISTRICT OFFICE

The enclosed draft environmental assessment on the wilderness study of the Chopaka Mountain Wilderness Study Area in Okanogan County, Washington, is being distributed for your review and comment. We would appreciate receiving your comments on the adequacy, completeness, and accuracy of the analyses.

The purpose of the draft assessment is to disclose the probable environmental impacts of designating or not designating the study area as wilderness. The environmental information gathered through this analysis and other data will serve as the basis for a recommendation to Congress as to whether or not the area should be designated wilderness. The assessment analyzes three alternatives and identifies a preferred alternative. The preferred alternative is, in effect, a preliminary recommendation. It will be reevaluated after your comments on this draft assessment have been reviewed.

Submit your comments by sending them to the Spokane District Office or by presenting them at a public hearing. If you send your comments to the District Office, please do so by February 28, 1983. The address is:

Jerry Kidd, Area Manager  
Bureau of Land Management  
Spokane District Office  
East 4217 Main  
Spokane, Washington 99202

Public hearings will be held in Okanogan on January 26, 1983, and in Spokane on January 27. The Okanogan hearing will be at the Okanogan Public Utility District Office, 1331 North 2nd Street; it will start at 7:00 p.m. The Spokane hearing will be held in BLM's Spokane District Office and will start at 7:00 p.m.

The Chopaka Mountain Wilderness Study Area is the only study area located on BLM-administered lands in the State of Washington. A second study area was designated on Little Patos Island in the San Juan Islands in November 1980. However, a subsequent records search revealed that the island is withdrawn for navigational purposes and is under the administrative jurisdiction of the U.S. Coast Guard. Therefore, it is not subject to the wilderness review mandated for BLM-administered lands.

Roger Burwell, Spokane District Manager

William G. Leavell, State Director

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Table of Contents

Page

# Chopaka Mountain Wilderness Study Plan Amendment and Environmental Assessment

U.S. DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Spokane District Office  
December 1982



# Table of Contents

	Page
<b>Chapter 1</b>	
<b>Introduction</b>	
Purpose and Need	1
Location	1
Planning Process	1
Requirements for Wilderness Study	2
Conformance Statement	4
Planning Issues	4
Planning Criteria	4
Quality Standards	5
<b>Chapter 2</b>	
<b>Alternatives, Including the Preferred Alternative</b>	
Alternative 1 - All Wilderness	6
Alternative 2 - No Wilderness (Preferred Alternative)	9
Alternative 3 - No Action	9
Selection of Preferred Alternative (Rationale)	9
Summary of Environmental Consequences	12
<b>Chapter 3</b>	
<b>Affected Environment</b>	
Climate	13
Air Quality and Noise Factors	13
Topography and Soils	13
Water Resources	13
Vegetation	13
Wildlife	13
Grazing	14
Cultural Resources	14
Visual Resources	14
Recreation	14
Energy and Minerals	14
Wilderness Values	14
Forest Products	14
Economic Conditions	15
Social Conditions	16
<b>Chapter 4</b>	
<b>Analysis of Wilderness Values</b>	
Naturalness	17
Opportunities for Solitude or Primitive and Unconfined Types of Recreation	17
Special Features	17
Summary of Wilderness Quality	18
Benefits to Other Multiple Resource Values	18
Diversity in the National Wilderness Preservation System	18
Manageability as Wilderness	19
<b>Chapter 5</b>	
<b>Environmental Consequences</b>	
Introduction	20
Geology, Climate and Cultural Resources	20
Air Quality	20
Wilderness Values	20
Mineral Exploration and Development	20
Soils	21
Water Resources	21
Vegetation	22
Wildlife	22
Visual Resources	22
Recreation	22
Grazing	23
Timber Management	23
Economic Conditions	23
Social Conditions	24
<b>Chapter 6</b>	
<b>Coordination, Consistency and Public Participation</b>	
<b>Chapter 7</b>	
<b>Response to Public Comments</b>	
<b>Chapter 8</b>	
<b>List of Preparers</b>	
<b>Chapter 9</b>	
<b>List of Officials, Agencies and Organizations to Whom Copies of the Assessment Have Been Sent</b>	28

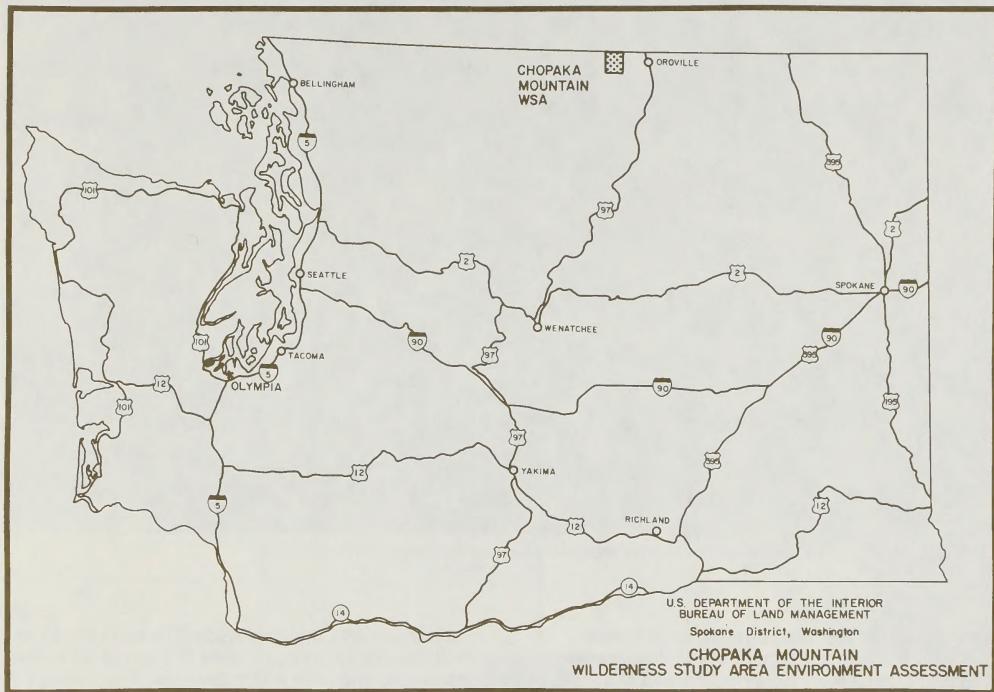
# Maps

# Page

Map 1 — Chopaka Mountain Vicinity Map .....	1
Map 2 — Chopaka Mountain Ownership Status .....	3
Map 3 — Chopaka Mountain Existing Allocations and Improvements .....	7
Map 4 — Special Management Areas .....	8
Map 5 — Prescribed Fire Management .....	10

# CHAPTER 1

## INTRODUCTION



MAP 1

### Purpose and Need

The land use plan prepared for the Spokane District in 1980—the Upper Columbia Management Framework Plan (MFP)—did not include a wilderness study of the Chopaka Mountain Wilderness Study Area because the wilderness inventory had not been completed. Therefore, it is necessary to amend the plan to conduct a wilderness review of the study area. The Federal Land Policy and Management Act of 1976 (FLPMA) requires that public lands with wilderness characteristics be reviewed and recommendations made as to their suitability or nonsuitability for preservation as wilderness. This amendment and environmental assessment (EA) will meet that requirement.

Based on the information developed in this environmental assessment, it is anticipated that a finding of No Significant Impact will be made and

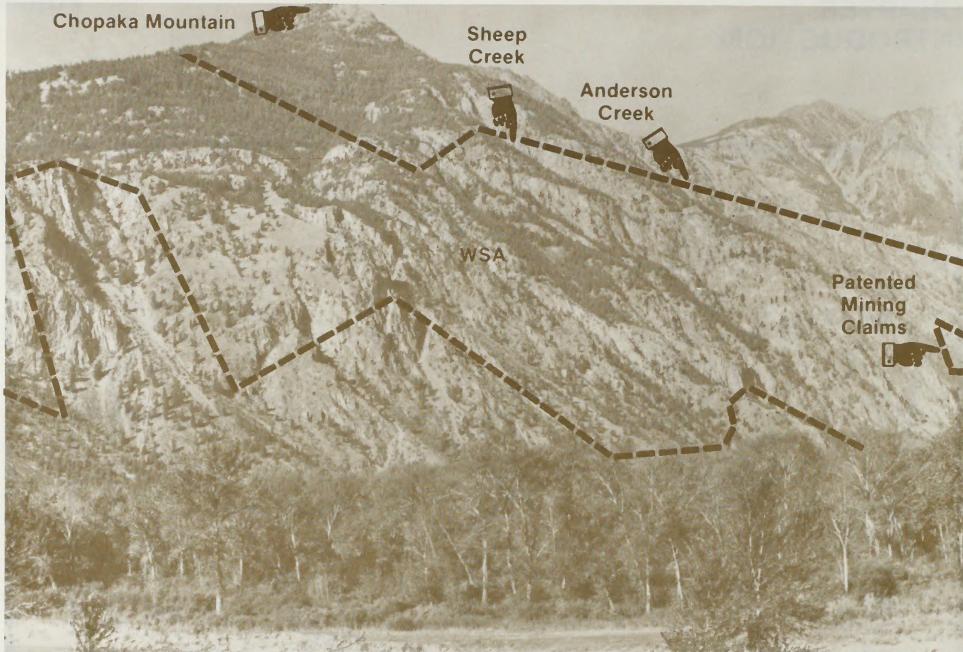
that an environmental impact statement will not be prepared.

### Location

The Chopaka Mountain Study Area is the only wilderness study area on public land administered by BLM in the State of Washington. It contains 5,518 acres and is located along the easternmost edge of the North Cascade Mountain Range, approximately 6 miles east of the Pasayten Wilderness Area and 10 miles west of the community of Oroville in Okanogan County. (Maps 1 and 2).

### Planning Process

This document supplements the Upper Columbia Management Framework Plan for the Spokane District. It has been prepared using the Bureau's Planning System. Initial steps of the planning process included identification of issues and



Chopaka Mountain Study Area as seen from the east. The ridgeline and toe of the slope are outside the study area.

development of planning criteria. Issues were identified through the receipt of public comments. Planning criteria were obtained from BLM's Wilderness Study Policy, and additional criteria were developed from the issues. The issues and planning criteria are described at the end of this chapter.

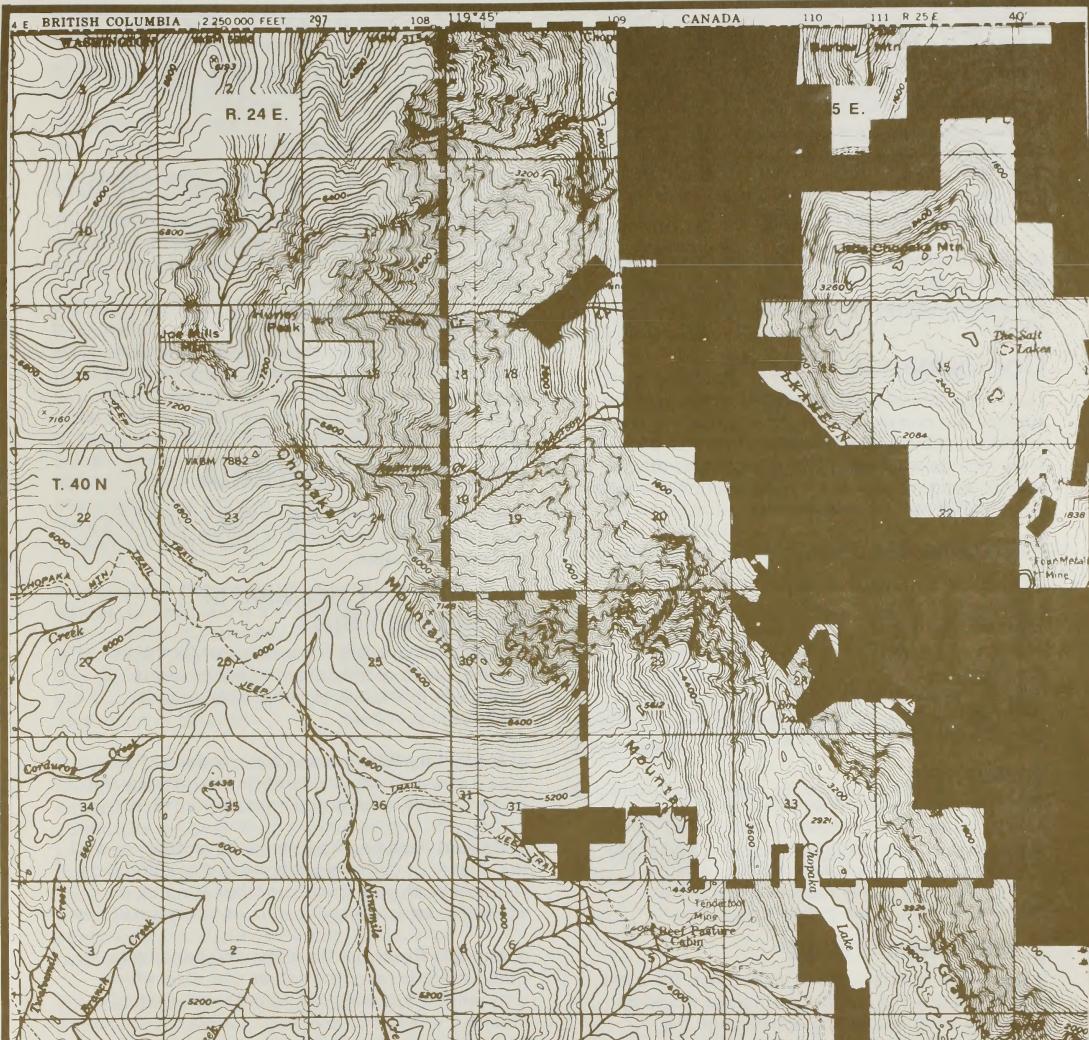
## Requirements for Wilderness Study

In accordance with FLPMA, the Secretary of the Interior is required to review areas of the public lands that have been determined to have wilderness characteristics (wilderness study areas) and to report to the President his recommendations as to the suitability or nonsuitability of each study area for preservation as wilderness. Then the President must report his recommendations to Congress. During the period of presidential review and until Congress acts on the President's recommendations, the Secretary of the Interior must manage the study area in a manner that will not impair the area's suitability for preservation as wilderness, subject to certain exceptions and conditions.

Each study area must be studied through the BLM multiple-use planning process to analyze all values, resources, and uses within the area. The findings of the wilderness study, including public participation, determine whether these areas will be recommended as suitable or nonsuitable for designation as a wilderness.

When a study has been completed, recommendations on suitability or nonsuitability for designation as wilderness are submitted, along with supporting data, through the Secretary of the Interior and the President, to Congress. A mineral survey to determine minerals values for any area recommended as suitable will be conducted by the U.S. Geological Survey and Bureau of Mines. Reports on study areas must reach the President no later than October 21, 1991, and must reach Congress by October 21, 1993. In order to meet these dates, the Secretary has set the end of 1987 as the date when all wilderness studies will be completed by BLM.

At the conclusion of the planning and environmental assessment process, a wilderness study report will be prepared that addresses the



U.S. DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**Spokane District, Washington**

CHOPAKA MOUNTAIN  
WILDERNESS STUDY AREA ENVIRONMENT ASSESSMENT

### Chopaka Mountain Ownership Status

- BUREAU OF LAND MANAGEMENT LANDS
- STATE LANDS
- PRIVATE LANDS
- WILDERNESS STUDY AREA BOUNDARY

wilderness study area (WSA). It represents the results of the study and contains BLM's wilderness recommendations. The study report will draw from the planning documents, the environmental assessment, and the results of public participation. Where appropriate, mineral survey reports will be attached to the study report prior to review by the Secretary of the Interior. Then Congress makes the final decisions concerning wilderness since only it can designate an area as wilderness.

BLM's Wilderness Study Policy describes how the wilderness studies will be conducted. A copy of this policy is available at the Spokane District Office.

## Conformance Statement

Two of the alternatives assessed in the plan amendment and environmental assessment are not in conformance with the existing land use plan. They include wilderness designation and other special designations which were not considered in the multiple use analyses in the plan.

## Planning Issues

As a result of public meetings concerning the wilderness study area, and the management screening procedures conducted for the environmental assessment, five issues were identified. These issues, some of which are environmental concerns and some of which are land use planning concerns, were used as the focal point for the environmental assessment.

### 1. Minerals

Wilderness designation would constrain development of and access to unpatented mining claims and mineral exploration on the rest of the study area. It is not known whether the area contains economically recoverable mineral deposits, but there are indications it may.

### 2. Wilderness Values

If the area is not designated wilderness, the most significant threat to wilderness values would be posed by potential mining activities on the patented and unpatented mining claims.

Wilderness values could also be impaired by timber management on 385 acres of forested land.

### 3. Wildlife

The Chopaka Mountain environment has been subjected to repeated burns. The present fire management policy is to actively suppress fire on the mountain. This has allowed successionary advancement and resulted in major changes in the densities and composition in the vegetation. This is partially responsible for the reduction in the population of mountain goats through the loss of preferred feeding habitat. Wilderness designation would preclude a prescribed burning project to improve proposed mountain goat habitat in three

drainages on Chopaka Mountain. The reasons why the burning project could not be carried out if the area were designated wilderness are explained in the rationale for the selection of the preferred alternative in Chapter 2.

### 4. Livestock Grazing

Concerns were raised about the possible effects of wilderness designation on livestock grazing. No intensive range developments are planned for the area, and there would be no significant conflicts between livestock grazing management and wilderness management.

### 5. Adjacent Land Use

The Washington State Department of Natural Resources is concerned about how wilderness designation of Chopaka Mountain would affect adjoining State lands which are managed for State school fund revenues.

## PLANNING CRITERIA

The BLM Wilderness Study Policy provides that two primary planning criteria will be used in all wilderness studies.

### Criterion 1 - Evaluation of Wilderness Values

The amendment and EA must consider the extent to which each of the following components contribute to the overall value of an area for wilderness purposes.

**1. Mandatory Wilderness Characteristics:** The area's size and the quality of its naturalness and opportunities for solitude or primitive recreation.

**2. Special Features:** The presence or absence and the quality of optional wilderness characteristics — ecological, geological, or other features of scientific, educational, scenic, or historical values.

**3. Multiple Resource Benefits:** The benefits to other multiple resource values and uses which only wilderness designation of the area could ensure.

**4. Diversity in the National Wilderness Preservation System:** The extent to which wilderness designation of the area under study would contribute to expanding the diversity of the National Wilderness Preservation System by:

a. Expanding the diversity of natural systems and features, as represented by ecosystems and landforms.

b. Increasing the opportunities for solitude or primitive recreation within 1 day's driving time (5 hours) of major population centers.

c. Balancing the geographic distribution of wilderness areas.

## Criterion 2 - Manageability

The extent to which an area can be effectively managed to preserve its wilderness character must be considered.

## Quality Standards

The Wilderness Study Policy also directs that the following six quality standards be used for analysis and documentation.

### 1. Energy and Mineral Resource Values:

Recommendations as to an area's suitability or nonsuitability for wilderness designation will reflect a thorough consideration of any identified or potential energy and mineral resource values.

**2. Impacts on Other Resources:** Wilderness suitability and nonsuitability recommendations will reflect a consideration of the extent to which other resource values or uses of the area would be foregone or adversely affected as a result of wilderness designation.

### 3. Impacts of Nondesignation on Wilderness Values:

In developing the recommendations, BLM will consider the alternative use of land under study if the area is not designated as wilderness, and the extent to which the wilderness values of the area would be foregone or adversely affected as a result of this use.

**4. Public Comment:** In determining whether an area is suitable or nonsuitable for wilderness designation, considerations will be given to comments received from interested and affected publics at all levels—local, state, regional, and national. The BLM will develop its recommendations by considering public comment in conjunction with a full analysis of a wilderness study area's multiple resources, social and economic values and uses.

**5. Local Social and Economic Effects:** In determining whether an area is suitable or nonsuitable for wilderness designation, the BLM will give special attention to any significant social and economic effects, as identified through the wilderness study process, which designation of the area would have on local areas.

**6. Consistency with Other Plans:** In determining whether an area is suitable or nonsuitable for wilderness designation, the BLM will fully consider and document the extent to which the recommendation is consistent with officially approved and adopted resource-related plans of other federal agencies and state and local governments and the policies and programs contained in such plans.

Besides the planning criteria and quality standards in the Wilderness Study Policy, ten additional criteria were developed for this amendment and EA due to their multiple-use nature. These criteria are similar to those previously mentioned.

1. The study should consider a wide range of protective designations for areas clearly requiring protection.
2. Social and economic effects of all land use allocations should be considered.
3. The amendment and EA should consider resource values which would be foregone due to restrictive land use allocations.
4. The potential for energy and mineral resource development should be considered.
5. Timber values, either gained or foregone, should be considered for each alternative.
6. The adverse and beneficial environmental impacts which could result from the implementation of any alternative should be considered.
7. Wildlife, both terrestrial and aquatic, should be maintained at reasonable levels.
8. Threatened or endangered species of plants and wildlife should be protected under all alternatives. Protection of unique vegetative types should be considered.
9. Cultural resources should be protected under all alternatives.
10. The effects of the alternatives on scenic quality should be considered.

## CHAPTER 2 ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE

### Introduction

Three alternatives were analyzed. Alternative 2 is the preferred alternative. A partial wilderness alternative was also considered. However, after the areas with conflicting land uses were eliminated from the study area, it was decided that the remaining public land lacked the values necessary for wilderness consideration.

### Alternative 1 - All Wilderness

All 5,518 acres in the study area would be designated wilderness (Map 2). The wilderness would be managed in accordance with the mandates of the Wilderness Act and the policies in BLM's Wilderness Management Policy. A summary of the Wilderness Management Policy is included in Chapter 10. A copy of the full management policy can be obtained from the Spokane District Office.

The Congressional mandate in the Wilderness Act contains three basic concepts which form the basis for BLM's Wilderness Management Policy.

- **Wilderness Preservation Concept:** Congress directed BLM to perpetuate the wilderness resource by managing designated wilderness areas so their wilderness character is preserved unimpaired.
- **Wilderness Use Concept:** Congress directed BLM to provide opportunities for the public to use designated wilderness areas for recreational, scenic, scientific, educational, conservation, and historical purposes in a manner so as to leave the wilderness area unimpaired for future use and enjoyment.
- **Nonconforming Use Concept:** Congress directed BLM to accommodate in wilderness areas certain activities, existing uses, and private rights which are generally nonconforming to wilderness preservation and wilderness use. The Wilderness Management Policy contains a full list of nonconforming but accepted uses. In the Chopaka Mountain Area, they would include--but not necessarily be limited to--existing private rights; control of fire, insects, and disease; mining; grazing; and access to non-federal inholdings.

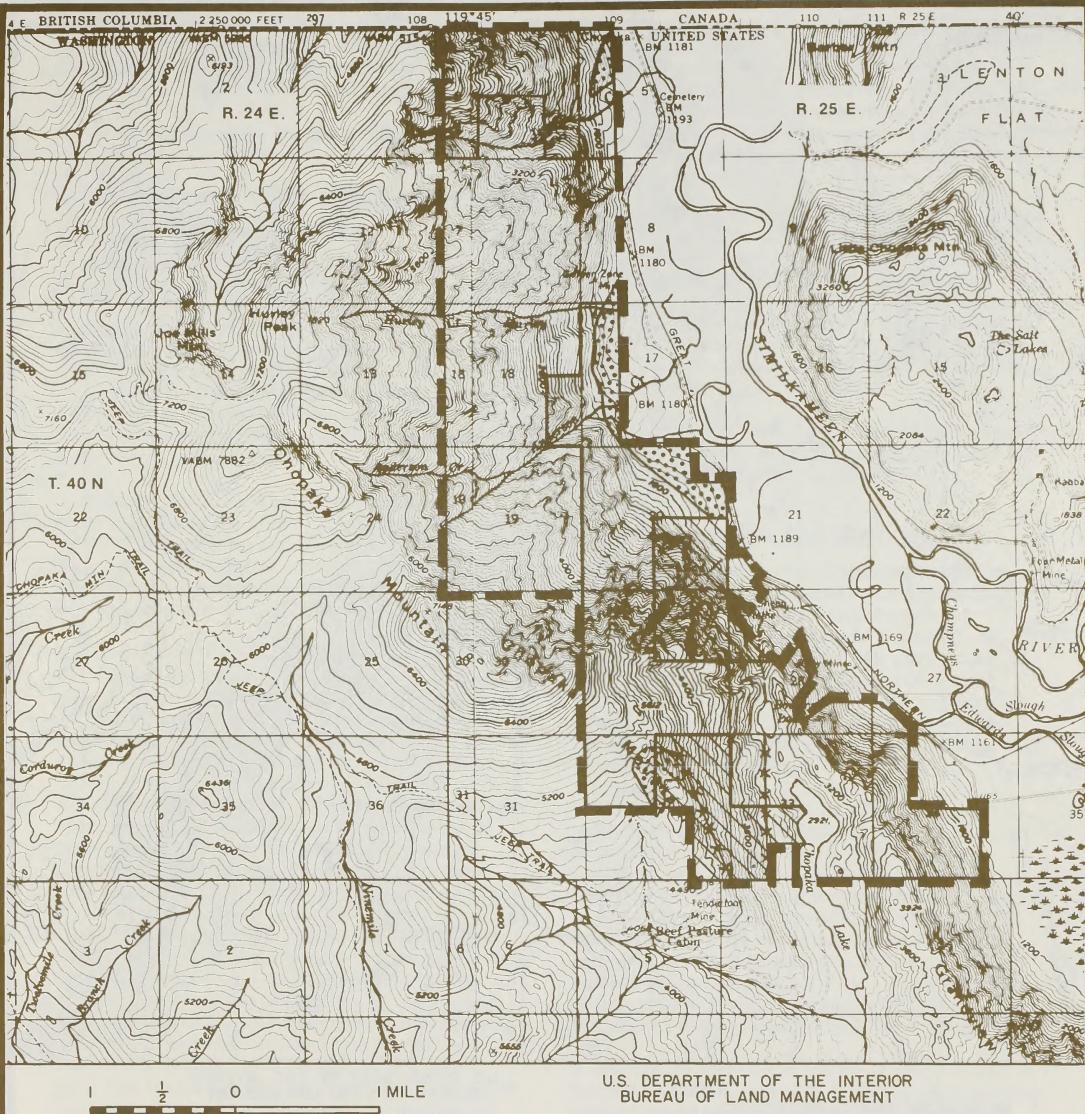
A wilderness management plan would not be developed until after Congress designated the area wilderness. However, some of the general aspects of how land in a Chopaka Mountain Wilderness would be managed follows:

**1. Minerals.** The area would be closed to new mineral entry and leasing. However, holders of mining claims who established valid rights to their claims before the area was designated wilderness would be able to develop their claims, even if the development would impair wilderness values. Mining could occur on the 95-acre private inholding; and access across public lands to the inholding would be granted.

**2. Wildlife.** The area would remain open to hunting and fishing under state regulation. The prescribed burning project to improve mountain goat habitat would not be carried out because it would not be consistent with the principle that natural ecological processes should be allowed to proceed uninterrupted in wilderness areas.

**3. Livestock Grazing.** The number of livestock permitted to graze in the area would be determined in the same manner as it would be if the area were not designated wilderness. Any adjustments upward or downward would be made through the normal grazing and land management planning and policy setting processes and would be based on a monitoring of vegetation conditions and trend. Grazing use would not be curtailed because the area was designated wilderness. Grazing facilities could be maintained. The use of motorized vehicles and equipment for livestock management and facilities maintenance would be restricted, but occasional use would be allowed if there were no practical alternatives. Map 3 delineates the location of existing grazing leases.

**4. Research Natural Area.** A 520-acre research natural area would be designated in the upper Anderson Creek drainage to preserve a whitebark pine-subalpine fir plant community (Map 4). Research natural areas are "naturally occurring physical or biological units where natural conditions are maintained insofar as possible." They are established to (1) preserve examples of all significant natural ecosystems for comparison with those influenced by man; (2) provide educational and research areas for ecological and environmental studies; and (3) preserve gene pools for typical and rare and endangered plants and animals. A committee of representatives of state and federal agencies and conservation organizations has identified the types of units, or "cells", a research natural area system in Oregon and Washington should have to provide adequate field laboratories for ecological, environmental, and land management research. A typical whitebark pine-subalpine fir forest is one of the cells not represented by any research natural area at the present time. The proposed research natural area would fill that cell. The site also contains a concentration of sensitive plant species; and one of the purposes of the designation would be to preserve the plants. See the vegetation section of Chapter 3 for a listing of the plant species.

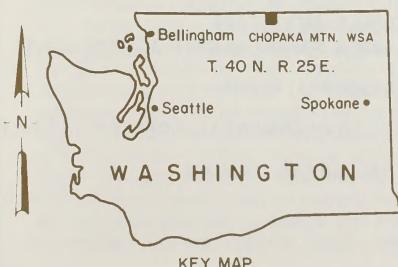


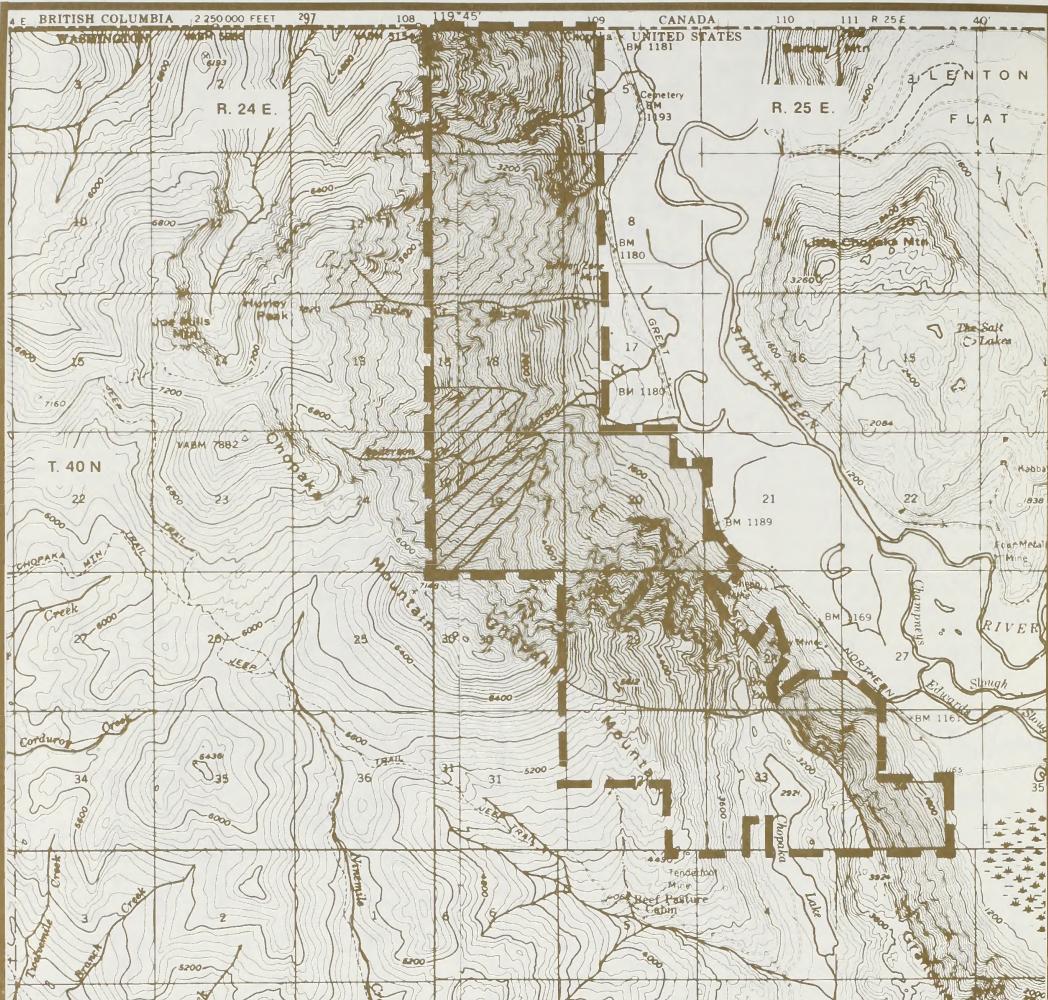
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BUREAU OF LAND MANAGEMENT

# CHOPAKA MOUNTAIN WILDERNESS STUDY AREA ENVIRONMENT ASSESSMENT

### Chopaka Mountain Existing Allocations And Improvements

- APPROXIMATE LOCATION OF MINING CLAIMS
- APPROXIMATE LOCATION OF EXISTING GRAZING LEASES
- \*— APPROXIMATE LOCATION OF EXISTING LIVESTOCK FENCES
- TIMBER MANAGEMENT AREA





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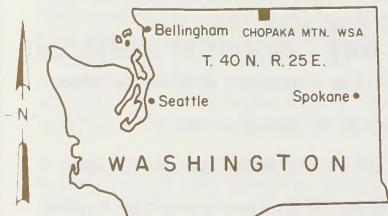
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Spokane District, Washington

### CHOPAKA MOUNTAIN WILDERNESS STUDY AREA ENVIRONMENT ASSESSMENT

#### Special Management Areas

- AREAS OF CRITICAL ENVIRONMENTAL CONCERN (A.C.E.C.)
- RESEARCH NATURAL AREAS (R.N.A.)



KEY MAP

**5. Recreation.** The area would remain open to primitive types of recreation activities such as hiking, backpacking, hunting, and fishing. The area would be closed to off-road vehicles.

**6. Forest Management.** Timber harvest would be precluded.

## Alternative 2 - No Wilderness (Preferred Alternative)

Under this alternative, lands in the study area would be recommended as nonsuitable for wilderness designation. The lands would be managed in accordance with the decisions made in the 1980 Upper Columbia Management Framework Plan, except that the plan would be amended to include the area of critical environmental concern and research natural area designations (Map 4). Principal features of the management of the area would be as follows.

**1. Minerals.** All lands would remain open to mineral entry. In the area of critical environmental concern, prospecting and mining operations could be conducted only after a plan of operations had been prepared and approved in accordance with the regulations in 43 CFR 3809.1-4.

**2. Wildlife.** The area would remain open to hunting and fishing. An area of critical environmental concern would be designated on 4,468 acres of mountain goat habitat to focus management on enhancement of the habitat. (An area of critical environmental concern is defined in the Section 103(a) of the Federal Land Policy and Management Act as an area "within the public lands where special management attention is required (when such areas are developed or used, or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards.") A prescribed burning project would be implemented to improve the goat habitat along Sheep, Hurley, and Jewett Creeks, three of the four drainages within the goat range on Chopaka Mountain (Map 5). No more than one drainage would be burned in a given year. The frequency with which the burning would be repeated would be determined by monitoring the vegetative response. At present, it is believed that the burning would be repeated every 20 years or so. Aerial fire retardant and hand crews would be used to contain the fires; no motorized equipment would be used. The Anderson Creek drainage would not be included in the prescribed burn. The research natural area would be located in the upper part of that drainage. Although the lower drainage would not be in the research natural area, it would not be burned because it would not be possible to ensure that the fire would not escape into the research natural area.

**3. Livestock Grazing.** The custodial grazing program would be continued. The livestock carrying capacity would be adjusted upward or downward as required; adjustments would be based on a monitoring of vegetative condition and trend. No major range improvements are planned; maintenance of existing facilities would continue on an as-needed basis.

**4. Recreation.** The area would be open for hunting, camping, hiking, and other recreation activities that would not result in unnecessary or undue degradation of the environment. A recreation management plan would be prepared for the area around Chopaka Lake. The plan would provide for a parking lot, primitive camp sites along the lake, trails, signs, and fencing of the historic cabin, barn and root cellar.

**5. Forest Management.** Timber would be harvested on 385 acres where selective cutting could screen cutting areas. Clear cutting would not be permitted.

## Alternative 3 - No Action

Under this alternative, the study area would be recommended as nonsuitable for designation as wilderness. The lands would be managed in accordance with the 1980 Upper Columbia Management Framework Plan; the plan would not be amended to incorporate the area of critical environmental concern and research natural area designations. Except for the following aspects, management of the area would be the same as that described for Alternative 2.

**1. Minerals.** All of the area would remain open to mineral entry. Whereas under Alternative 2 a plan of operation would have to be submitted and approved before any mineral exploration and development could occur within the area of critical environmental concern, in Alternative 3 a plan of operation would be required only when the proposed operations would cause a cumulative surface disturbance of more than 5 acres during a calendar year. Mining operations would be regulated by the provisions of 43 CFR 3809.

**2. Wildlife.** In addition to the areas which would be burned under Alternative 2, the prescribed burning project would be implemented in the Anderson Creek drainage.

## Selection of Preferred Alternative (Rationale)

Selection of the preferred alternatives for the study area was based on public input and an application of the planning criteria and wilderness quality standards. The No Wilderness alternative was selected as the preferred alternative because of the potential benefits of keeping the area open to mineral exploration and development, because it



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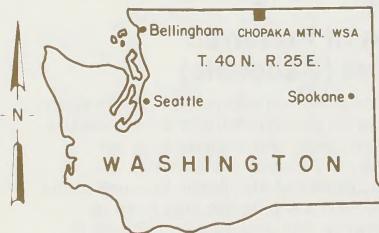
Spokane District, Washington

### CHOPAKA MOUNTAIN WILDERNESS STUDY AREA ENVIRONMENT ASSESSMENT

Prescribed Fire Management

NO WILDERNESS ALTERNATIVE

NO ACTION ALTERNATIVE



KEY MAP

would provide opportunities to improve mountain goat habitat and increase the goat population, and because of the area's relatively low wilderness values.

Mining has occurred in the immediate vicinity of the study area, and there are indications of mineralization within the study area. Gold has been taken from mines in a 95-acre, privately owned inholding in the north-central part of the study area. No mining is occurring there now, but there is a possibility that the mines will be developed in the future. Thirteen mining claims covering approximately 365 acres in the southeast corner of the study area may contain deposits of lead and silver. Geochemical sampling indicates a heavy metal anomaly around the Ruby Mine, located just outside the east boundary of the study area, and copper anomalies around Chopaka Lake at the south end of the study area. No other exploration has been performed due in part to the inaccessibility of the area and current economic conditions. The BLM District geologist considers the entire east slope of Chopaka Mountain to be an area with high mineral potential. This has been further substantiated by interests expressed by the two mining companies that if economic conditions improve they would be interested in starting an exploration program in the area. Because of the variety of mineralization, past production at the Ruby Mine and in the private inholding, and the limited scope of past exploration, keeping this area open for further investigation is considered desirable. Although provisions of the Wilderness Act would allow development on existing claims where valid rights were established before the area was withdrawn from the general mining laws, mineral development of other claims would be precluded after wilderness designation.

The study area provides a portion of the habitat of a band of mountain goats now numbering about 130 animals. Changes in vegetative composition and densities are reducing the goats' preferred feeding habitat with a corresponding effect on the herd size. This trend in declining habitat is not unique to the Chopaka area; mountain goat habitat on a statewide basis is declining. The trend in the Chopaka Mountain area could be reversed by burning portions of the habitat in three drainages in the study area.

The habitat could not be burned as proposed if the area were designated wilderness. Because of the frequency of the burning, ecological processes would not be allowed to occur unimpeded in the project area. One of the principal objectives of wilderness management is to allow ecological processes to function in a normal manner. If the area were designated wilderness and fire were allowed to play its natural role, the quality of the area as goat habitat would continue to decline.

Although goats would continue to use the area, the population would be lower than at present.

The area's wilderness qualities are limited. The area is essentially in natural condition, and it offers sufficient opportunities for solitude to qualify as a study area. However, the opportunities for solitude are limited by the area's narrow shape, relatively small size, limited vegetative and topographic screening, and the sights and sounds of activities outside of the study area. The steep and difficult terrain limits opportunities for recreation in the northern two-thirds of the area. Chopaka Lake offers fishing opportunities, but the lake crosses the study area boundaries; and activity on the lake and at a campground located along the lake but outside the study area detracts from the primitive qualities of recreation activities in the study area. Opportunities for primitive recreation activities are not outstanding. Designation of the area as wilderness would not significantly increase the diversity of the ecosystems and land forms represented in the National Wilderness Preservation System, significantly add to the opportunities for solitude or primitive recreation activities within 1 day's driving time of population centers, or significantly improve the geographic balance of components of the National Wilderness Preservation System.

If the area were designated wilderness and minerals were developed on the private inholding, it might be difficult to manage the area so as to prevent impairment of its wilderness values. The 365 acres of unpatented mining claims located in the southern part of the study area are not being mined now; but if the claimants established valid rights to the claims before the area was designated wilderness, mining could impair wilderness values.

Although the management proposed for the area would not provide the wilderness protection that a wilderness designation would ensure, it would provide a degree of protection for the environmental qualities that the public has viewed as important. Designations of an area of critical environmental concern and a research natural area on portions of the study area and the multiple-use decisions previously made in the management framework appear to respond to the known issues while preserving the option for mineral development.

The purpose of the area of critical environmental concern designation would be to focus management direction on preservation of the mountain goat habitat. Mineral prospecting and mining in the proposed area of critical environmental concern would be governed by the regulations in 43 CFR 3809.1-4. They provide that a plan of operations be submitted to and approved by BLM before any surface disturbing activities

occur. The proposed prescribed burning project to improve the mountain goat habitat would be implemented in all areas originally proposed in the 1980 management framework plan except the Anderson Creek drainage.

A 520-acre research natural area would be designated within the area of critical environmental concern in the upper Anderson Creek drainage to preserve a representative whitebark pine-subalpine fir forest and those plants proposed for state listing as threatened or endangered.

## **Summary of Environmental Consequences of Alternatives**

Wilderness designation would preclude enhancement opportunities for the improvement of mountain goat habitat. It would also restrict exploration for minerals and prohibit the development of newly discovered mineral deposits. Wilderness designation would not have a significant effect on the other resources.

In Alternative 2, mineral exploration and development and prescription burning for the improvement of mountain goat habitat would be permitted. However, soil and water resources and the wilderness values in the WSA would be adversely affected. The main effects of the area of critical environmental concern and research natural area designations would be that prior to any mineral exploration and/or development proposed in the area of critical environmental concern or research natural area, an approved plan of operations would be required.

The impacts of Alternative 3 would be similar to those described for Alternative 2, with two exceptions. The research natural area would not be designated; and the Anderson Creek drainage — the location of the research natural area in Alternative 1 and 2 — would be included in the prescribed burn area. The other difference pertains to mineral exploration and development. In this case an approved plan of operations would only be required when five or more acres would be disturbed within a calendar year.

## CHAPTER 3 AFFECTED ENVIRONMENT

### Climate

The summers are sunny, warm, and dry. Frequent weather changes occur in winter due to Pacific weather systems and occasional invasions of Arctic air masses of Canadian origin. The daily temperature range is about 13 degrees in the winter and nearly 30 degrees in the summer. Annual precipitation is approximately 30 inches, most of which falls during the fall and winter months. The average winter snowfall ranges from 20 to 35 inches in the valley areas to around 100 inches on the mountain. Electrical storms are frequent between the months of April and October and usually occur in isolated cells.

### Air Quality and Noise Factors

The air quality within the WSA meets the ambient air quality standards. Chopaka Mountain WSA is located within the Northern Washington Intrastate Air Quality Control Region. There are no non-attainment areas within this region. (A non-attainment area is an area that does not meet air quality standards.)

The noise factors apparent from within the WSA are mainly related to agriculture. Sounds from farm tractors can be heard along with noise from the intermittent vehicular traffic on the dirt road in the Similkameen River Valley.

### Topography and Soils

The Chopaka Mountain study area is located on the east-facing slopes of Chopaka Mountain and Hurley Peak. It extends from the Similkameen River Valley up the slope to within a few hundred yards of the ridge crest at two points. Three-quarters of the area is very steep, with slopes ranging from 45 percent to nearly vertical cliffs. The gentler portions (about 10 to 30 percent of the area) are found on the toe slopes of the mountains on the east edge and around Bowers and Chopaka Lakes at the south end of the area. The soils are generally poorly developed, gravelly, and shallow with extensive rock outcroppings.

### Water Resources

Four perennial streams flow through the study area: Jewitt, Hurley, Anderson and Sheep creeks. The stream beds are narrow and steep, resulting in a rapid flow. These streams are subject to periodic flash flooding. Consequently, sediment deposition on the rangeland in the valley bottom near the mouth of the streams is not uncommon. There also are two lakes in the study area. The locations of Bowers and Chopaka Lakes are shown on Map 2.

### Vegetation

Great plant diversity exists within the study area. This is due in part to its considerable topographic relief. A sagebrush-steppe plant community is found at the base of the mountain. This community gives way to a ponderosa pine/Douglas-fir type at the lower and middle elevations (2,000 to 4,000 feet). Above 4,000 feet, subalpine fir and whitebark pine predominate.

A threatened and endangered plant inventory was conducted, and eight species proposed for State listing were found in and near the study area. These species are regarded as sensitive by the BLM. They were found mainly in micro habitats created by cliffs, talus slopes, seeps, creeks, differing soil depths, and aspect within the ponderosa pine/Douglas-fir and the whitebark pine/subalpine fir plant communities. The eight sensitive species are:

*Draba aurea* 1. yellow draba  
*Dodecatheon pulchellum* var. *watsonii* few-flowered shooting star  
*Potentilla quinquefolia* five-leaved cinquefoil  
*Potentilla nivea* snow cinquefoil  
*Potentilla diversifolia* var. *perdissecta* diverse leaved cinquefoil  
*Salix tweedyi* Tweedy's willow  
*Gentiana glauca* glaucous gentian  
*Carex scirpoidea* var. *scirpoidea* Canadian single spike sedge

The upper Anderson Creek drainage, the site of the proposed research natural area, contains the major concentration of these plants in the study area. That part of the study area also contains one of only two known populations of Tweedy's willow in the State of Washington.

### Wildlife

Because of its rugged, steep topography, the wilderness study area supports numerous types of wildlife habitat and a variety of special habitat features. These are inhabited by a wide variety of animals, ranging from chukars, black-billed magpies, and whitetail deer at lower elevations to white-tailed ptarmigan, gray jays, and mountain goats at upper elevations.

A number of raptor species inhabit the area, including the northern goshawk, sharp-shinned hawk, red-tailed hawk, rough-legged hawk, golden eagle, northern harrier, American kestrel, and several species of owls. Waterfowl and shorebirds can be found around Chopaka Lake and Bowers Lake. Introduced rainbow trout inhabit Chopaka Lake. Mule deer are common, but not abundant, in much of the area.

Mountain goats are the most prominent species in the study area. Approximately 130 animals (1981 census) live on the slopes of Grandview and Chopaka Mountains. During the winter most of the goats inhabit the lower slopes within the study area, but as the snows recede, the animals disperse up the mountains, some moving into the high peaks and ridges on adjoining State land.

The goats moved into the Chopaka Mountain area from Canada after a fire burned portions of the mountain in 1929. At one point during the 1930's, it was estimated the band contained about 300 animals. However, numbers declined to 194 in 1948. The decline continued to a low of around 26 in 1973. This rapid decline was due in part to hunting pressures and a gradual reduction of preferred feeding habitat caused by the successional advances of the vegetative community. The area was closed to goat hunting in 1972, and since then the population has increased to about 130. The area was reopened to goat hunting in 1980; five permits were issued.

## Grazing

The study area contains portions of four grazing allotments. Four permittees are licensed for approximately 455 AUM's on approximately 3,500 acres in the study area. Livestock graze in the study area from June 1 to September 30. The existing management framework plan provides for a continuation of custodial management. No intensive range developments are planned (Map 3).

## Cultural Resources

Three historical-archaeological sites have been identified in the study area. One contains a number of semisubterranean pits in a talus slope. The site is Native American. It has been disturbed by removal of talus material to a depth of 6 to 8 feet below the original surface. A second site contains one semisubterranean pit in a talus slope. The site is unusual because the pit represents a prehistoric technology that has been carried forward to the historic period. The third consists of a rock wall that was constructed between two granite boulders. The construction of this feature represents prehistoric technology carried forward into the historic period.

## Visual Resources

Under the guidelines of BLM's visual resource management system, the study area is classified as having Class C scenic quality. A Class C area contains land features which are fairly common in the physiographic region.

## Recreation

Due to the steepness of the study area, good recreational opportunities are limited to about 2 square miles in the southern section. Best

opportunities are for fishing and camping at Chopaka Lake and hunting throughout the study area. The lake extends beyond the boundary of the study area, and a cooperative BLM, State Department of Natural Resources, and State Department of Game campground is located on the edge of the lake outside of the study area. Most of the recreation activity in the area occurs on or around the lake. Camping and fishing begin each year after the snow melts and the road to Chopaka Lake is opened. These activities continue through the summer into the late fall. In the fall, hunting seasons open, and hunters frequent the area until access closes in the winter. Other, less popular, recreation activities in the area include motorcycle trail riding, hiking, jogging, and float plane camping. It is estimated that people spent 2,765 recreation visitor days in the area in 1981 (Map 5).

## Energy and Minerals

Gold was mined in the 95-acre privately owned inholding in the north part of the study area, and silver was mined at the Ruby Mine just outside the southeast boundary of the study area in the early 1900's (Map 2). Thirteen mining claims containing 365 acres are located in the southeastern portion of the study area (Map 3). No mining is occurring in the study area at present. The study area is known to contain deposits of gold, lead, silver, zinc, copper and tungsten. These are "locatable" minerals for which mining claims can be filed under the provisions of the General Mining Laws. Insufficient quantities of these minerals have been found in the study area to make it economically feasible to mine them under current economic conditions. Geochemical sampling has indicated the presence of some copper around Chopaka Lake at the south end of the study area and a heavy metal anomaly around the Ruby Mine at the east edge of the study area. No other exploration has been performed, in part because of the difficulty in traveling in the area.

No leasable minerals are known to exist in the study area. Leasable minerals are those which may be leased under the Mineral Leasing Laws. They include oil, gas, coal, and several other minerals.

## Wilderness Values

During the wilderness inventory, it was determined that the study area was in an essentially natural condition and offered sufficient opportunities for solitude to qualify as a wilderness study area. Chapter 4 contains an evaluation of the wilderness characteristics.

## Forest Products

Approximately 385 acres of commercial forest land are located at the lower elevations of the study area. The lands produce an annual harvestable timber yield of about 45,000 board feet (Map 4).



Aerial view of the south end of the study area, looking north. The snow-covered, south half of Chopaka Lake is located outside the study area.

## Economic Conditions

The resources within the study area may generate economic activity in four main areas: mining, grazing, timber, and recreation. Such activities can be described using two different economic terms. One measures the local economic impact. This is done by estimating the amount of expenditures that is generated by the resource. For example, the money that ranchers who graze livestock on public lands spend in the local economy generates additional expenditures and therefore personal income to local businesses and employees. The total generated personal income (direct and induced) is a measure of the impact that the resource — in this example, the livestock forage — has on the local economy.

The other way to measure economic activity is in terms of economic value. Although consumer expenditures may be useful in estimating the economic impact of a resource (such as recreation), they do not measure the value which consumers (recreationists) themselves receive from the experience. In some areas, the market place provides a convenient indicator of the value placed upon a resource by the consumer. In other areas,

proxies are used to estimate these economic values.

Table 1 lists local personal income generated by, and economic values of, the four potential resources within the study area.

**Table 1. Local Personal Income and Economic Values of the Resources of the Chopaka Mountain Wilderness Study Area - 1981**

	Units	Net Economic Value	Local Personal Income <sup>1</sup>
Mining	13 mining claims	0	0
Grazing	455 animal unit months	\$ 3,722	\$ 9,682
Timber	45 thousand board feet annual yield	\$ 1,350	\$12,045
Recreation	2765 recreation visitor days	\$19,603	\$24,166

<sup>1</sup> Estimates of local personal income attributable to resources in the study area were developed by using input-output multipliers for Grant County, Oregon, a similar rural area.

**Mining.** There are 13 mining claims located in the study area. No development of these claims is taking place. Presently there is no local personal income generated by these activities.

**Grazing.** Livestock grazing permittees are licensed for 455 animal unit months (AUM's) in the study area. These AUM's generate a total of \$9,682 in local earnings through expenditures (455 AUM's x \$21.28 direct and induced multiplier = \$9,682). The U.S. Department of Agriculture estimates the value of an AUM on public land in Washington in 1981 to be \$8.18. The net economic value of grazing in this study area is \$3,722 (455 AUM's x \$8.18 = \$3,722).

**Timber.** The study area contains 385 acres of marginally productive forest land that has the potential to yield 45,000 board feet of timber. The average stumpage value of this timber is \$30 per thousand board feet (MBF). The maximum personal income that could be generated from the 45 MBF is \$12,045. This would only be realized under a negotiated contract initiated by a buyer. BLM has no plans to offer a timber sale in the area at its initiative under any of the alternatives.

**Recreation.** As in grazing, local economic impact is generated by recreationists in that their local expenditures represent an increased demand for goods and services. In terms of 1981 dollars, the 2,765 recreation visitor days generate about \$24,166 in local income (\$8.74 per day income multiplier x 2,765 recreation visitor days = \$24,166). The U.S. Forest Service recommends the use of \$7.09 (1981 price) as an estimate of the net economic value per activity day of recreation (fishing) use. The net value of the recreation generated by the 2,765 visitor days is therefore \$19,603 (2,765 x \$7.09 = \$19,603).

## Social Conditions

The social environment includes the people with grazing allotments in the study area, visitors who come to the area for recreational activities, the owners and managers of adjacent property, people in nearby communities affected by the expenditures by the leases and the visitors, people in the local area affected in non-economic ways by the presence of non-local visitors, and local and non-local people who are concerned with the issues of mineral development and wilderness preservation. These people's perceptions and experiences make up the social conditions which may be affected by BLM's land use decisions.

During the wilderness inventory (1978-80) there was a frequently expressed concern that wilderness designation would severely constrain livestock grazing operations. That concern appears to have been reduced with increasing awareness that grazing systems would not be disrupted. In fact, some members of the public

now believe that wilderness designation could have some positive effects on livestock operations through the prohibition of off-road vehicles and a resultant reduction in vandalism of fences.

Other concerns include the impact of wilderness designation on wildlife management, on the development of mineral deposits, on the Washington State Department of Natural Resources (DNR) which manages the land immediately west of the study area, and the impact of not designating the area wilderness on associated natural values. The Washington State DNR concern is based on the belief that, if the Chopaka Mountain study area is designated wilderness, the DNR would be subject to social pressure to change its management practices on lands that would then be located between two wilderness areas.

## CHAPTER 4

### ANALYSIS OF WILDERNESS VALUES

#### Naturalness

Section 2(c) of the Wilderness Act says that a wilderness area "generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable." The language in the Act makes clear that areas which "generally appear" natural but contain some imprints of man's work may be designated as wilderness, so long as those imprints are "substantially unnoticeable" in the wilderness area as a whole. Some study areas have minor imprints within their boundaries which are substantially unnoticeable in the area as a whole. Although these imprints were not sufficient to prevent the areas from being identified as study areas, they are further evaluated during the study process to determine the extent to which their presence affects the quality of overall naturalness of the area as perceived by the average visitor.

The Chopaka Mountain Study Area appears to be in a generally natural condition. This is particularly true in the northern two-thirds of the area, where the only evidence of man's activity is a fence. The southern third contains several minor imprints which are somewhat noticeable because of the limited vegetative screening. They also are located in the portion of the study area which is most used by the public. The imprints include heavy shoreline compaction from recreational vehicle use around Chopaka Lake, 4 miles of barbed wire fence, 4 miles of ways, and three historical structures.

The sights and sounds of human activities and works outside the study area do not significantly detract from the area's naturalness. The 95-acre private inholding in the northern part of the study area contains some minor signs of past mining activities. The most significant visual impact associated with developments outside the area is the broad view of several thousand acres of farm and ranch land located to the east and southeast. From higher elevations in the study area, a person can see a broad mosaic of colors and patterns formed by the agricultural lands. Other less noticeable outside developments which can be seen from within the study area include a county road at the east edge of the area and a campground at Chopaka Lake. The county road extends into Canada and receives a moderate amount of traffic. The campground has minimal facilities, but receives fairly heavy use during fishing and hunting seasons.

The sounds of livestock, farm machinery, and vehicular traffic can be heard in the unit.

The sights and sounds of new timber management and mining activities on State lands above and to the west of the study area could detract from the area's naturalness in the future. The State-owned upper slopes of Chopaka Mountain can be seen from much of the study area. A number of chromite deposits with mining claims are located on those lands. The State Department of Natural Resource emphasizes timber harvest and mining in its management of the lands.

#### Opportunities for Solitude or Primitive and Unconfined Types of Recreation

The Wilderness Act says that a wilderness area has "... outstanding opportunities for solitude or a primitive and unconfined type of recreation."

It was determined during the wilderness inventory that the Chopaka Mountain Study Area had sufficient opportunities for solitude to qualify as a wilderness study area. However, those opportunities are limited by the study area's narrow shape, relatively small size, limited vegetative and topographic screening, and the sights and sounds of activities on lands outside the study area. The north and north-central portions of the area are only 1 1/4 miles wide, and are so steep that they are relatively inaccessible to most users. Only 25 to 30 percent of the study area has sufficient topographic screening to enhance opportunities for solitude. Most of the vegetative screening is located around the two lakes in the south end and along the four drainages in the central and northern portions. The vegetative cover on the slopes and ridges is sparse and consists of conifer trees and a low brush understory. Opportunities for a visitor to find a secluded spot are limited to approximately 25 to 30 percent of the area. The steepness and corresponding openness of the majority of the area foster a feeling of exposure, rather than one of seclusion. The sights and sounds of the heavy recreational use at Chopaka Lake and the adjacent campground detract from the opportunities for solitude on adjacent lands within the study area.

The area provides good, but not outstanding, opportunities for hunting, fishing, day hiking, and backpacking. The steep and difficult terrain limit opportunities for hunting, and fishing opportunities are limited to Chopaka Lake. The area's narrow width and steep terrain also would restrict opportunities for day hiking and backpacking. The scenic vistas across the valley to the east provide good opportunities for sightseeing.

#### Special Features

Section 2(c) of the Wilderness Act states that a wilderness area "... may also contain ecological, geological, or other features of scientific,



View down Anderson Creek. Photo was taken approximately one-half mile outside the western boundary of the study area.

educational, scenic, or historical value." The presence and quality of such special features contribute to the value of an area as wilderness.

The Chopaka Mountain Study Area's special features include populations of mountain goats and white-tailed ptarmigan, a whitebark pine-subalpine fir plant community that contains an unusually high concentration of sensitive plant species, and old cabins which may have some historical value. The goat population is noteworthy because it is of special interest to the general public for hunting purposes. It is also of value to the local community for the aesthetic pleasures derived from viewing the herd on the mountain slopes.

### Summary of Wilderness Quality

Although the area meets the minimum standards for identification as a wilderness study area, its overall wilderness quality is relatively low. It is essentially natural, but opportunities for solitude are limited by the area's narrow width, relatively small size, limited screening, and the sights and sounds of activities outside the area. The area does not offer outstanding opportunities for primitive types of recreation.

### Benefits to Other Multiple Resource Values

Because it would restrict surface-disturbing activities, wilderness designation could reduce the chances for excessive soil erosion in the steep drainages in the northern two-thirds of the area, protect sensitive plant species, and protect wildlife habitat. Prohibition of road construction would be particularly beneficial to the mountain goat and white-tailed ptarmigan populations. No road construction is now planned in the area, but roads might be constructed if mines are developed.

### Diversity in the National Wilderness Preservation System

Designation of the Chopaka Mountain Area as wilderness would not significantly increase diversity in the National Wilderness Preservation System.

Wilderness designation is a means of preserving examples of the various ecosystems and landforms in the United States in an unimpaired condition for future generations. A system developed by Robert

Bailey and A.W. Kuchler has been used to identify the ecosystems and landforms already represented in the National Wilderness Preservation System and those which occur in potential additions to the wilderness system. Under the Bailey-Kuchler system, the Chopaka Mountain Study Area is located in the Pacific Forest Province, and the principle ecosystem is Douglas-fir forest. In the State of Washington, this combination of landform and ecosystem occurs on 200,000 acres in the Pasayten Wilderness, on 28,200 acres in areas endorsed for wilderness designation by the President, and on 25,200 acres in other potential wilderness areas such as Forest Service RARE II further planning areas. Designation of the 5,518 acres on Chopaka Mountain as wilderness would not materially increase the representation of this combination of landform and ecosystem in the wilderness system.

One of Congress' goals in previous wilderness designations has been to preserve wilderness near population centers. Chopaka Mountain is within 1 day's driving time of five major population centers: Richland-Kennewick, Seattle-Everett, Spokane, Tacoma, and Yakima, Washington. All of these areas are Standard Metropolitan Statistical Areas with populations over 100,000. The data in Table 2 indicate that significant acreages of existing wilderness areas, areas endorsed for wilderness designation by the President, and potential wilderness such as the RARE II further planning areas are located within a day's travel time of the five metropolitan areas:

**Table 2. Existing and Potential Wilderness Within One Day's Driving Time of Five Major Population Centers in Washington**

	Existing Wilderness (acres)	Endorsed for Wilderness by President (acres)	Potential Wilderness Such as RARE II Further Planning Areas (acres)
Richland-Kennewick	2,524,900	1,153,000	598,200
Seattle-Everett	1,550,700	1,929,000	283,100
Spokane	2,052,500	964,500	479,800
Tacoma	1,842,100	1,962,600	283,100
Yakima	2,526,200	2,045,300	607,600

Designation of the Chopaka Mountain Area as wilderness would not significantly increase solitude or primitive recreation opportunities within 1 day's driving time of these cities.

Designation of the Chopaka Mountain Area also would not significantly affect the geographic distribution of wilderness in the State. Washington contains 1,544,043 acres of designated wilderness, 364,700 acres of National Forest land and 1,599,500 acres of National Park land that have been recommended for wilderness designation by the President, and 220,100 acres of Forest Service RARE II further planning areas still under wilderness review. The Chopaka Mountain Study Area is located 5 miles east of the 505,524-acre Pasayten Wilderness.

## Manageability as Wilderness

If so designated, it might be possible to manage the area as wilderness. The uncertainty stems from the 95-acre private inholding in the northern part of the study area and the 365 acres of unpatented mining claims in the southeastern part of the area. The inholding is comprised of five patented mining claims. The mine in the inholding is not being worked now, but if it were reopened in the future, the activity would detract from the wilderness values of the surrounding area. The claims to the south also are not being mined at present. However, if the claimants made a valid mineral discovery before the area was designated wilderness and withdrawn from the general mining laws, they would have the right to mine, regardless of the effect on the area's wilderness values.

## CHAPTER 5

# ENVIRONMENTAL CONSEQUENCES

### Introduction

This chapter describes and analyzes the probable environmental impacts of the alternatives. The analysis is designed to be commensurate with the expected magnitude, intensity, duration, and incidence of impacts.

Wilderness designation would not constitute an irreversible or irretrievable commitment of resources in the area. It would restrict or preclude development of some resources, such as minerals and timber. However, Congress could revoke or modify the designation if it determined resources in the area should be developed.

The analyses of the long term impacts of wilderness designation are based on BLM's Wilderness Management Policy. The analyses of the short term impacts of Alternatives 2 and 3 are based on management options included in the Upper Columbia Management Framework Plan and the plan amendment now under consideration.

### Geology, Climate, and Cultural Resources

Geology, climate, and cultural resources would not be affected by any of the alternatives and will not be addressed further.

### Air Quality

The BLM Wilderness Management Policy states wilderness areas will be managed to meet the Class II Air Quality Standard unless the areas are reclassified by the State.

There are no known existing or proposed activities which would be precluded or constrained because of the management of a Chopaka Mountain Wilderness to meet the Class II air quality standards.

Alternatives 2 and 3 prescribe timber management practices and wildlife habitat improvements which would cause short-term increases in particulate levels due to road construction, vehicle exhaust emissions, and burning. These particulate levels would be insignificant.

### Wilderness Values

Under Alternative 1, wilderness designation would provide a significant degree of protection for the wilderness values of the 5,518 acres in the study area. The area's principal wilderness value is its naturalness. It is essentially free of the works of humans; and wilderness designation would

provide considerable assurance that the area's near-pristine character would be preserved. The principal threat to the area's naturalness under this alternative would be the possibility of mining on claims to which valid rights had been established by the time the area was designated and withdrawn from the general mining laws. It is not possible to estimate the likelihood of such an occurrence.

Opportunities for solitude and primitive recreation activities are limited by the area's small size, narrow width, and exceedingly steep terrain.

Under Alternative 2, wilderness values would be adversely affected by the goat habitat improvement project. Natural ecological processes would be disrupted by the periodic burning of three drainages in the northern part of the study area. Although the frequency of the burning would not be determined until the effects of the first burning cycle had been monitored, for analysis purposes it is assumed that each drainage would be burned about once every 20 years. Burning on such a cycle would maintain the vegetative community at an early seral stage and preclude succession to a climax stage.

The use of off-road vehicles in the area around Chopaka Lake would reduce opportunities for solitude in that portion of the Chopaka Mountain area.

The potential for impairment of wilderness values by mining activity would be greater under Alternative 2 than in Alternative 1 because all of the area would be open to mineral entry under the General Mining Laws. It is not possible to estimate the probable extent of mineral development, but the most likely locations may be in and around the private inholding in the north-central portion and the mining claims in the southeastern part of the study area. The area's naturalness could be impaired by the placement of tailing piles and the construction of roads and mine buildings. The area's solitude could be impaired by the mining activities.

Under Alternative 3, the impacts on wilderness values would be the same as those in Alternative 2, except that the prescribed burning project would disrupt natural ecological processes in the Anderson Creek drainage as well as in the three drainages to the north which would be burned in both Alternatives 2 and 3.

### Mineral Exploration and Development

Under the All Wilderness Alternative, mineral exploration and development would be affected in the following manner:

1. No new mining claims could be filed after the date of wilderness designation.
2. Valid existing claims within the wilderness could be mined. The claims would have to be valid as of the date of wilderness designation. To be considered valid, there would have to be evidence that the claim could produce sufficient ore for a prudent person to be willing to invest time and money to develop a paying mine. Before the surface of a valid claim was disturbed, a mining plan of operations would have to be submitted to and approved by BLM. BLM could not restrict a mining operation on a valid claim to the extent that mining would not be economical. It is not known whether any of the mining claims in the study area are valid.
3. Mining could not occur on mining claims which were not valid as of the date of designation.
4. Mineral exploration which did not impair wilderness values could be conducted, but mining claims could not be filed and mineral rights — except those to valid claims existing at the date of designation — could not be patented.
5. Minerals could not be leased.

6. Wilderness designation would not affect mineral exploration and development in the private inholding.

From a minerals standpoint, the major impact of wilderness designation would be to preclude possible development of mineral deposits that are currently uneconomical to mine and exploration for and development of unknown mineral resources. It is not possible to estimate the significance of possible mineral values that would be foregone if the area were designated wilderness. Currently there are no known economically recoverable mineral deposits in the study area. However, the BLM District Geologist believes that economically recoverable mineral reserves could be discovered if the area were not withdrawn from mineral entry.

Under the No Wilderness Alternative, all of the study area would remain open to mineral entry. This alternative would retain opportunities for mineral exploration and the option for development of minerals in the event significant deposits are discovered. In the 4,468-acre area of critical environmental concern, a mining plan of operation would have to be submitted to and approved by BLM before surface-disturbing operations could be undertaken.

The consequences of the No Action Alternative would be the same as those of the No Wilderness Alternative except that a mining plan of operation would have to be submitted to and approved by BLM only if the operations would cause a

cumulative surface disturbance of more than 5 acres during a calendar year.

## Soils

Under Alternative 1, impacts on soils would be limited to those resulting from any mining which might occur on mining claims to which valid rights had been established by the time the area was designated wilderness.

Under Alternative 2, the action which would be most certain to affect soils would be the prescribed burning for mountain goat habitat improvement. Burning the three drainages would increase soil erosion rates by 3 to 4 tons per acre over estimated current levels of 5 tons per acre. Prescribed burning would also increase the likelihood that small isolated mud or land slides would occur. These mass wasting episodes would be confined to the drainages on the public land.

Mining could occur anywhere in the area; and the surface disturbance caused by the mining and related road construction could increase soil erosion rates.

The effects of implementing Alternative 3 would be similar to Alternative 2, except that additional erosion would occur because the Anderson Creek drainage would be included in the prescribed burn.

## Water Resources

Under Alternative 1, watershed conditions would be similar to those existing today. Water quality and water yield would not be affected. The exception might be where mining occurred on mining claims for which valid rights were established by the time the area was designated wilderness.

Under Alternative 2, increases in water yield and sedimentation would occur as a result of prescription burning. This would cause temporary flooding of the range land near the mouth of the streams. However, it would not result in significant losses in cattle forage. The water quality of the creeks in the project area would decrease during periods of high runoff. This decrease would be of short duration and would not be significant.

The other multiple use practices which would occur under this alternative would cause only limited surface disturbances and would lead to little, if any, change in the water resources in or outside of the area. The exception could be mining. If mining did occur, the surface disturbance could decrease water quality.

The impacts under Alternative 3 would be similar to those described for Alternative 2. The impacts relative to Anderson Creek would be similar in

intensity and effect to those described for the other creeks.

## Vegetation

Under Alternative 1, vegetation would continue to move toward a climax stage.

Under Alternative 2, the burning of three drainages would result in the maintenance of early successional stages. Instead of the mature forest cover which would be maintained under Alternative 1 in portions of the three drainages, the general aspect in the drainages would be brush and grass fields with scattered young trees. The burns would not result in the permanent loss of most plant species in the drainages. The effect that burning would have on the eight known sensitive plant species is uncertain. The proposed research natural area contains the major concentrations of these plants; sufficient populations of the sensitive plants would be maintained in the research natural area to allow the burning to proceed until the effects on the populations in the burned areas could be evaluated.

With Alternative 3, the impacts would be identical to those described in Alternative 2, except that the burning of the Anderson Creek drainage would result in the loss of approximately 490 acres of the 520-acre whitebark-pine/ subalpine fir plant community proposed for research natural area designation. The burning of this community would not result in the permanent loss of the plant cell from the region; it occurs in other areas. However, it could result in the alteration of habitat necessary for the survival of the Tweedy's willow (*Salix tweedyi*), which is currently proposed for state listing. This plant has only been sighted twice in the state. Other species listed as sensitive and found in this habitat type would be affected; however, the extent of the impact on the plant populations in the drainage is unknown.

## Wildlife

Under Alternative 1, present trends in wildlife populations would continue. The size of the mountain goat herd would continue to decline because plant succession would continue toward a climax stage. The mountain goats prefer a grass and brush aspect over the forest aspect which would develop as the vegetation reached a climax stage. The goats would continue to use portions of the area, but their numbers would gradually decline.

As succession proceeds and mountain goat use of Chopaka Mountain declines, monitoring activities such as census and tagging would become more difficult because it would be more difficult to see the goats. The cost of obtaining annual data could become prohibitive; if this happened, management of the goat herd necessarily would become more subjective.

Under Alternative 2, the populations of most species would remain at approximately their current levels. The mountain goats would be an exception. Approximately 1,050 acres of mountain goat winter range would be improved by prescribed burning. As a result, the goat population would increase up to a level of about 200 animals.

The research natural area designation would preclude prescribed burning on preferred mountain goat winter range in the Anderson Creek drainage. The areas down slope from the research natural area could not be burned because it would be difficult to prevent fire from spreading into the research natural area. Therefore, plant succession in the drainage would continue toward a climax stage and result in a continued decline in quality of preferred winter range for the goats. Mountain goat use in Anderson Creek would decline.

Impacts of Alternative 3 would be similar to those described for Alternative 2, with the exception that the Anderson Creek drainage would be burned. Approximately 1,540 acres of mountain goat winter range would be improved, compared to 1,050 acres for Alternative 2. As a result, the goat population would increase to 250 to 300 animals.

## Visual Resources

Under Alternative 1, the area's scenic quality would remain unchanged.

With Alternative 2, the unit would be managed so that the contrast resulting from any development activity could be seen but not attract attention. The area's scenic quality would remain unchanged unless significant mining and associated road development were to occur.

Under Alternative 3, the area would be managed so that the visual contrasts created by development activities would be allowed to be evident but still remain subordinate to the existing landscape. Impacts would be similar to those for Alternative 2.

## Recreation

Management of this area as wilderness would preserve opportunities for primitive and unconfined forms of recreation while precluding those types of recreational activities that are dependent upon the use of motorized vehicles within the study area. Wilderness designation could lead to an increase in use of the area for primitive recreation activities, but it is not possible to project how much the use might change. If such activities did increase, it is expected that the rate of increase would be less than 10 percent per year for the first 5 years following designation. This estimate is based, in part, on recreation-use data collected in newly designated Forest Service wilderness areas. (Margaret Petersen. "Trends in

Recreation Use of National Forest Wilderness." Research Note INT-319, Intermountain Forest and Range Experiment Station, U.S. Forest Service, 1981.) The average annual percentage change in recreation use between 1973 and 1980 for areas designated in 1973 was +27 percent. The average annual percentage changes in recreation use between the dates of designation and 1980 for areas designated in following years were:

Date of Wilderness Designation	Average Annual Percentage Change
1975	+7
1976	+3
1977	+24
1978	+15
1979	+15

Because of the nature of the recreation use on Chopaka Mountain, it is expected that wilderness designation would not lead to as much of an increase in recreation use on Chopaka Mountain as it might have caused in some of the areas represented by the preceding statistics. Most of the recreationists who come to the study area come to fish in Chopaka Lake or hunt.

Approximately half of the lake lies outside the study area, so wilderness designation would have only a limited effect on the character of recreation opportunities on and around the lake. Because of the area's limited size, it does not offer a wilderness type of hunting experience.

If the area were designated wilderness, the exclusion of motor vehicles probably would not have a significant effect on the amount of recreation use in the area. Most recreationists who visit the area come to hunt, fish, and camp around Chopaka Lake. Most of this use probably would continue regardless of whether off-road vehicles were prohibited in the area.

Under Alternatives 2 and 3, recreation opportunities would remain essentially unchanged. The number of goat hunting permits might be increased as the goat population increased, but there is no assurance that would be the case. If mineral deposits were discovered and mined in the area, the surface disturbance and mining activity could detract from the quality of the recreation opportunities.

## Grazing

Grazing operations within the WSA would not be significantly affected by wilderness management. One livestock permittee's use of vehicles in the area to manage livestock might be restricted, but it would not significantly affect his operations. The other permittees do not use motorized vehicles in the area to manage their livestock.

There essentially would be no change in livestock operations if either Alternatives 2 or 3 were implemented. The prescribed burning would result in the loss of 23 animal unit months for 1 to 2 years. This loss would be minor, approximating 5 percent of one rancher's licensed animal unit months in the area.

## Timber Management

Under wilderness designation, management would be directed toward natural ecological succession except under emergency situations as described in the Wilderness Management Policy. No timber would be harvested.

Under Alternatives 2 and 3, 385 acres would be added to the district's timber allowable cut (harvest) base (Map 4). It would increase the district's allowable cut by 45,000 board feet. This increase would not significantly affect the district's forestry program or the economies of local communities. The impacts associated with timber harvest operations, such as those on soils, vegetation, and water resources, are described in BLM's Final Environmental Impact Statement on Timber Management; therefore, they are not reiterated in this document.

## Economic Conditions

None of the alternatives would cause significant changes in current economic conditions.

No mining is occurring in the area at present. If minerals were developed in the future under Alternatives 2 or 3, economic values and local personal income could be increased. However, it is not possible to estimate the potential significance of such changes. Alternatives 2 and 3 would retain current opportunities to explore for and develop any mineral resources which might exist in the area. Alternative 1 would preclude such opportunities as long as the wilderness designation were retained.

Only one of the four livestock grazing permittees in the study area might be economically affected by Alternative 1, and that effect would be small. That permittee is the only one of the four who uses motorized vehicles within the study area to manage livestock. If the area were designated wilderness, grazing permittees would not be allowed to use motor vehicles in the wilderness unless there were no practical alternatives. The extent to which the permittee's use of motorized vehicles would be restricted would not be determined until after the area was designated. It could range from no restriction to total prohibition. If the permittee were precluded from using any motorized vehicle for livestock management, it is estimated his annual transportation costs would be increased by about \$8.00.

Timber harvest would be precluded under Alternative 1 and permitted under Alternatives 2 and 3. If sales were negotiated for timber in the study area, economic values would be increased by \$1,350 per year and local personal income would be increased by \$12,045 per year.

Possible economic effects of the alternatives are listed in Table 3.

**Table 3. Economic Effects of Alternatives (1981 price levels)**

Expected Economic Effects	Alternative 1 All Wilderness	Alternative 2 No wilderness	Alternative 3 No action
<b>Mining</b>			
a) Change in revenues	0	0	0
b) Change in local personal income	0	0	0
<b>Livestock Grazing</b>			
Present AUM's:455			
a) Change in AUM's	0	0	0
b) Change in economic value	0	0	0
c) Change in local personal income	0	0	0
<b>Timber Harvest</b>			
Potential annual harvest: 45 mbf			
a) Change in harvest	-45 mbf	0	0
b) Change in economic value	-\$1,350	0	0
c) Change in local personal income	-\$12,045	0	0
<b>Total Changes</b>			
a) Change in economic value	-\$1,350	0	0
b) Change in local personal income	-\$12,045	0	0
<b>Increase in recreation use required to offset other changes</b>			
a) Changes in economic value	+138 RVDs	0	0
b) Changes in local personal income	+1,378 RVDs	0	0

Designation of the area as wilderness could cause an increase in primitive types of recreation activities, but it is not possible to estimate how much of an increase would occur. It is possible to estimate how much recreation use would have to increase in order to offset the increases in economic value and local personal income that would be foregone if the area were designated wilderness. The total economic value and local personal income that would be foregone if the area were designated wilderness would be \$1,350 and \$12,045, respectively. These values would be foregone because the timber would not be harvested. In order to offset the economic value foregone by the prohibition of timber harvest, recreation visitor days (RVD) in the wilderness would have to increase by 138 ( $\$1,350 \div \$9.79$  - the value of a RVD). Recreation visitor days would have to increase by 1,378 ( $\$12,045 \div \$8.74$  = the local personal income generated by a RVD) to offset the local personal income foregone because timber harvest would be prohibited. Recreation use in the study area in 1981 was 2,765 recreation

visitor days. It is within the range of possibility that recreation use could increase by 138 to 1,378 visitor days within the first 5 years following wilderness designation.

## Social Conditions

Impacts on social conditions occur when a land use decision affects people's economic opportunities, their access to resources they have traditionally used, or the protection afforded a resource or resources they value. Social effects may also occur when people perceive a threat, loss, opportunity or benefit, regardless of the likelihood of occurrence of the threat, loss, opportunity or benefit. These impacts would be significant when they result in inter-personal or inter-group conflict, disrupt the social cohesion of a community, or when a particular individual or group benefits or suffers inordinately as a result of BLM's decision.

No significant impacts on social conditions have been identified or are anticipated under any of the alternatives considered in this EA. This is largely because the study area is small and the values that would be affected by any of the alternatives are only a small portion of similar values in the potential social impact area. For example, the most substantial potential economic impact that could generate social impacts is that associated with the commercial timber in the study area. However, the probability of that timber even being cut is low. There are no parties being deprived of or anticipating an opportunity to harvest the timber, and the amount of timber and its value in terms of local personal income and local employment would be very small in the context of the local forest products industry. Therefore, a decision to implement Alternative 1 would not be expected to have significant social effects even though timber harvesting would not be allowed under that alternative.

There are no known Native American lands, resources or values that would be affected by the land use alternatives.

## CHAPTER 6

### COORDINATION, CONSISTENCY AND PUBLIC PARTICIPATION

#### Coordination Prior to the Amendment and Environmental Assessment Preparation

Prior to the preparation of this amendment and EA, the Spokane District consulted and coordinated planning efforts with the public during the Management Framework Plan process and the inventory phase of the Bureau's wilderness review program. These early efforts were widely advertised in an attempt to reach affected publics. Also contacted during these phases were local governments and state and federal agencies.

As part of this consultation and coordination process, public planning workshops were held to identify significant problems and issues to be addressed during the planning. These workshops were conducted in Spokane and Okanogan, Washington.

In January 1981, an open house was held in the Spokane District Office to gather input concerning the District's wilderness studies. This effort provided information which helped identify potential issues and public concerns.

#### Consistency With Other Resource Plans

All BLM planning and major actions are coordinated with affected Washington state agencies. BLM planning is also coordinated with county land use plans, and any natural resource programs or policies.

Consultation with other government agencies indicates that the preferred alternative and Alternative 3 are consistent with their officially approved or adopted resource related plans. Wilderness designation could indirectly conflict with management of the State Department of Natural Resource lands, but does not contradict any approved plans. The Department has expressed concern over the possibility that Chopaka Mountain might be designated a wilderness area. The Department has plans for a wide variety of activities on the state trust lands located between the study area and the Pasayten Wilderness. These activities include, but are not limited to, timber sales, timber stand improvement, reforestation, mineral extraction, recreation, fire control, and insect and disease control. Some of these activities are occurring at the present time and will continue indefinitely. If the study area is designated wilderness, the trust lands would be

located between two wilderness areas. The Department is concerned that people may work to include the state lands in a wilderness area. The Department believes this would not be in the State's best interest.

There are no known conflicts with Indian tribal lands, resources or values which are to be protected under the Native American Religious Freedoms Act or any treaties covering ceded lands.

#### Ongoing Public Participation

The public will have a continuing opportunity to participate in the amendment/EA and wilderness study process. Written comments are requested from those reviewing this document. Oral comments will be accepted at the public hearing.

Complete records of public involvement activities, correspondence, and results are located in the Public Participation Record on file at the Spokane District Office.

## **CHAPTER 7**

### **RESPONSE TO PUBLIC COMMENTS**

This chapter will only appear in the final EA. It will contain comments received on the draft EA and BLM's responses to them.

## CHAPTER 8

### LIST OF PREPARERS

#### District Office Personnel

Pamela Camp - Botanist  
William Carleton - Fire Management Officer  
Dean Crandell - Geologist  
Ralph Cornwall - Forester  
James Farrell - Wildlife Biologist  
Richard Hubbard - Range Conservationist  
Neal Hedges - Wildlife Biologist  
Willard Kempe - Planning Coordinator  
Jerry Kidd - Area Manager  
Albert Martin - Chief, Division of Resource Management  
Gary Yeager - Environmental Coordinator, Team Leader  
Jack Zwiesler - Forester

#### Oregon State Office Personnel

Daniel Bowman - Social Scientist  
Don Geary - Wilderness Coordinator  
Jeanne Johnson - Writer/Editor  
Hans Radtke - Economist  
Eric Stone - Planning Coordinator

## CHAPTER 9

### LIST OF OFFICIALS, AGENCIES AND ORGANIZATIONS TO WHOM COPIES OF THE ASSESSMENT HAVE BEEN SENT

#### 1. GOVERNMENTAL AGENCIES

##### FEDERAL

U.S. Bureau of Indian Affairs  
 U.S. Environmental Protection Agency  
 U.S. Department of Energy  
 U.S. Fish and Wildlife Service  
 U.S. National Park Service  
 U.S. Forest Service  
 U.S. Soil Conservation Service  
 U.S. Bureau of Mines  
 U.S. Geological Survey  
 U.S. Bureau of Reclamation

##### STATE

Office of the Governor  
 Office of the Secretary of State  
 Washington State Library  
 Washington State Conservation Commission  
 Washington State Superintendent of Public Instruction  
 Washington State Department of Natural Resources  
 Washington State Parks and Recreation Commission  
 Washington State Treasurer  
 Washington State Department of Ecology  
 Washington State Department of Agriculture  
 Washington State Department of Game  
 Washington State Department of Fisheries  
 Washington State Farm Bureau  
 Washington State Division of Geology and Earth Resources  
 Washington State Department of Transportation  
 Washington State Commissioner of Public Lands

##### COUNTY

Washington Association of Counties  
 San Juan County Park Board  
 San Juan County Planning Department  
 Okanogan County Planning Department  
 Okanogan County Assessor

#### 2. CONGRESSIONAL

U.S. Senator Henry M. Jackson  
 U.S. Senator Slade Gorton  
 U.S. Representative Thomas Foley  
 U.S. Representative Sid Morrison

U.S. Representative Allan B. Swift  
 U.S. Representative Joel Pritchard  
 U.S. Representative Norman O. Dicks  
 U.S. Representative Don L. Bonker

#### 3. STATE LEGISLATURE

Senator Alex Deccio  
 Senator Frank Hansen  
 Senator George Sellar  
 Senator Bruce Wilson  
 Representative Scott Barr  
 Representative Noel Bickham  
 Representative Harold Clayton  
 Representative Lyle Dickie  
 Representative Helen Fancher  
 Representative Sid Flanagan  
 Representative Dick Nickell  
 Representative Roland Schmitt  
 Representative Curtis Smith  
 Representative Earl Tilly

#### 4. CANADIAN AGENCIES

Ministry of Forestry, British Columbia

#### 5. GROUPS AND ORGANIZATIONS

Pacific Northwest 4-Wheel Drive Association  
 Terradata  
 U.S. Borax Company  
 Washington Cattlemen's Association  
 Pacific Northwest Trail Association  
 Northwest Pine Association  
 L. F. Baum and Associates  
 P & H Mining Company  
 Sierra Club  
 R & M Consultant Company  
 Minerals Exploration Coalition  
 Washington Natural Heritage Program  
 Washington Beef Commission  
 Chevron Resources Company  
 Hunt Oil Company  
 Continental Oil Company  
 Pacific Logging Congress  
 Orcas Conservancy  
 Cascadia Exploration Corporation  
 Gold Field Mining Corporation  
 The Anschultz Corporation  
 Minatome Corporation  
 NUS Corporation  
 Phillips Uranium Corporation  
 Washington Environmental Council  
 Homestake Mining Company  
 Dawn Mining Company  
 The Wilderness Society  
 Rocky Mountain Energy  
 Washington Wilderness Coalition  
 The Institute of Ecology  
 The Wilderness Group  
 Geothermal Resources International  
 Utah International, Incorporated  
 Public Lands Institute  
 Okanogan County Cattlemen

Union Oil Company  
Friends of the San Juans  
Puget Sound Power and Light  
Oregon Natural Heritage Program  
AMOCO Minerals Company  
California Energy Company  
Gulf Mineral Resources Company  
Atlantic Richfield Company  
Western Nuclear  
The Mountaineers  
Nature Conservancy  
Peak Putters 4-Wheel Drive Club  
Desert Rats  
Belfair Packrat Search and Rescue  
Water and Power Resources  
Trails, Incorporated  
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Century West Engineering Corporation  
The Audubon Society  
Oregon Historical Society  
Lloyd Corporation  
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League of Women Voters of Washington  
Caveman 4-Wheel Drive Club  
Timber Linn 4-Wheel Drive Club  
Whatever 4-Wheel Drive Club  
Cascade 4-Wheel Drive Club  
Environmental Education Center  
Colorado State University  
Jones and Associates, Incorporated  
University of Washington  
University of Oregon  
Eastern Washington University  
Western Washington University  
Washington State University

In addition to these officials, agencies, and organizations, this EA has been sent to 104 individuals who have expressed an interest in the use and management of land in the Chopaka Mountain Study Area.

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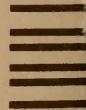
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